



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/551,955 | 10/06/2005 | Bruno De La Nouvelle | 2979-110 | 6154 |
| 6449 | 7590 | 04/09/2007 | | |
| ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005 | | | EXAMINER PENDLETON, DIONNE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2615 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | NOTIFICATION DATE | DELIVERY MODE |
|--|-------------------|---------------|
| 3 MONTHS | 04/09/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/09/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

| | | | |
|------------------------------|------------------------|-----------------------|--|
| Office Action Summary | Application No. | Applicant(s)/ | |
| | 10/551,955 | DE LA NOUVELLE ET AL. | |
| | Examiner | Art Unit | |
| | Dionne H. Pendleton | 2615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) n/a is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/6/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 4-16 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim may not depend from any other multiple dependent claim.

See MPEP § 608.01(n). Accordingly, the claims 4-16 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 1-16** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1,

Line 4 contains the recitation "preferably a plurality of". The term "preferably" is indefinite.

The Applicant is required to clarify the claims so as to particularly point out and distinctly claim his invention.

Claims 2-16 are rejected due to their dependency upon rejected base claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-2** are rejected under 35 U.S.C. 102(e) as being anticipated by **Kam (2004/0037447)**.

Regarding claim 1,

*As best understood with regard to the U.S.C. 112 second paragraph above, In **Figure 6**, Kam teaches A diaphragm for a loudspeaker, characterized in that such diaphragm comprises a core **142** consisting of structural foam cut with high precision and thermo molded to the geometric shape desired for the diaphragm, as is well understood in the art;*

In **paragraph [0039]**, Kam teaches that the exterior surface is covered with at least one, preferably a plurality of, "outer plies" **141** of woven or nonwoven fibers impregnated with resin to form a laminate or "outer skin", The interior surface is covered or not covered with one or more woven or nonwoven "inner plies" **143** to form a laminate or "inner skin", as claimed.

Regarding claim 2,

*As best understood with regard to the U.S.C. 112 second paragraph above, Kam teaches in **Figure 6**, a diaphragm as specified in claim 1, wherein the woven or nonwoven fibers forming the inner and outer plies which are selected are among the following: glass fibers carbon fibers, polyethylene fibers, aramides, and para-amides (Dyneema.TM., Spectra.TM., Kevlar.TM., Vectran.TM.) , see paragraph [0039], line 11.*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kam (2004/0037447)** in view of **Inoue (US 6,378,649)**.

Regarding claim 3,

As best understood with regard to the U.S.C. 112 second paragraph above, KAM teaches the invention of claim 2. Kam does not clearly teach that the foam constitutes a core selected from among the following: Plexiglass.TM. foam with closed cells of a density ranging from 30 to 100 kg/m.sup.3, typically 50 kg/m.sup.3 PVC; (polyvinyl chloride) foam with closed cells of a density ranging from 50 to 200 kg/m.sup.3; polystyrene foam with closed cells of a density ranging from 15 to 40 kg/m.sup.3.

Art Unit: 2615

However, In *column 6, lines 22-40*, INOUE teaches the usefulness of a diaphragm core constructed from thermoplastic non-woven fiber materials such as polystyrene. It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the diaphragm of Kam per the teachings of Inoue, thereby obtaining a speaker having large internal loss, as well as excellent rigidity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


D. Pendleton


VIVIAN CHIN
SUPERVISOR/PATENT EXAMINER
TECHNOLOGY CENTER 2600